May 19, 2015

Felicia Marcus
Chair, State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Sent via email

RE: Request for the Board to Revise 2015 Drought Operations to Avoid Unreasonable Water Temperature Impacts to Salmon Fisheries and other Fish and Wildlife

Dear Chair Marcus and Members of the Board:

On behalf of the Natural Resources Defense Council and the Bay Institute, we are writing to urge the Board to modify preliminarily approved drought operations of the CVP and SWP relating to operation of Shasta Dam and the failure to maintain adequate water temperatures for spawning salmon. In light of the agencies' modeled temperature projections, the known error rate in that model, and the substantial and recognized flaws in Reclamation's temperature model, the proposed plan is likely to lead to substantial mortality of both winter run Chinook salmon and fall run Chinook salmon – an avoidable and unreasonably harmful impact in light of 2014's disastrous loss of temperature control. Inexplicably, the Board and other agencies have failed to limit reservoir releases in April and May of this year as proposed in the 2015 Drought Contingency Plan (which stated on page 17 that "flow releases at Keswick will be maintained at the minimum of 3,250 cfs this winter and spring," until "late May, [when] flow releases will increase at Keswick to facilitate temperature management along the upper reach of the Sacramento River"). This will substantially and adversely affect temperature control this year and is a major cause for the likely mortality of salmon later in the year. However, the Board can still improve temperature conditions and likely survival of Chinook salmon by reducing reservoir releases during the summer months to levels that are necessary for temperature control only, shifting the timing of some releases and downstream diversions until the fall months when the water is needed to maintain temperature control and provide habitat conditions for juvenile salmon, or will not adversely affect salmon.

In 2014, Reclamation lost temperature control at Shasta dam, resulting in a greater than 95% mortality of endangered winter run Chinook salmon eggs and juveniles before they reached Red Bluff Diversion Dam, leading to a likely year class failure. The loss of temperature control in 2014 also appears to have resulted in similar levels of mortality of fall run Chinook salmon eggs and juveniles that spawned in the upper Sacramento River. State and Federal agencies have already adopted additional restrictions on salmon fishing this year, with greater restrictions likely in the next few years, impacting the thousands of fishing jobs and communities that depend on healthy salmon runs.

As the Executive Director has concluded, the waiver of D-1641 minimum standards and resulting SWP/CVP operations in 2014 caused unreasonable impacts on fish and wildlife. The loss of temperature control occurred despite the Board waiving delta outflow standards protecting fish and wildlife in both 2014 and 2015 for the stated purpose of conserving upstream storage to allow for improved temperature management, resulting in over 400,000 acre feet (2014) and as much as 1.2 million acre feet (2015) being reallocated from required environmental protections under D-1641. Despite this stated purpose, not only did the Board's orders in 2014 fail to protect upstream water temperatures for salmon in 2014, but the waiver of these outflow standards – which are critical to protect the health of the estuary and native fisheries, including Delta smelt, longfin smelt and migrating juvenile Chinook salmon, steelhead, and sturgeon— is jeopardizing the continued existence of these native fisheries. Waiver of Delta outflow standards is also causing other long term impacts to the health of the estuary including increased population of invasive species, increased likelihood that new species will invade and harm the estuary and worsening water quality and harmful algal blooms. These waivers of outflow standards may result in permanent, adverse changes to the health of the estuary, as occurred during the 1987-1992 drought.

Yet the Board's 2015 TUCP orders run the very real risk of repeating last year's disaster for fish and wildlife.

Pursuant to the Board's September 2014 order on reconsideration, Reclamation performed additional operational modeling to inform temperature control operations this year. That modeling demonstrates that reservoir releases from Shasta and Keswick dams under Reclamation's proposal are far in excess of what is required to maintain temperature control, particularly during April and May (before temperature control releases are necessary),[1] as well

[1] As noted above, the drought operations plan stated that Shasta/Keswick releases in April and May would be limited to 3,250 cfs in order to better maintain temperature control. Under Reclamation's plan, reservoir releases will average 4,300 and 7,500 in April and May, respectively.

as later in the summer. Moreover, the fish and wildlife agencies have recognized that Reclamation's temperature model underestimated actual water temperatures by as much as four degrees last year, and these errors in the model have not been remedied. But the preliminarily approved Shasta operations plan relies on the same model, which estimates temperatures for much of the summer and fall at or very near the upper limit of 56 degrees Fahrenheit. This temperature defines the threshold between sub-optimal temperatures (which may produce negative effects in subsequent life stages) and detrimental temperatures (where direct egg mortality becomes apparent). If actual temperatures exceed modeled temperatures again this year, the planned operations would have devastating consequences for salmon populations.

While it is too late to remedy the Board's orders approving the waiver of D-1641 winter/spring outflow requirements this year and the April/May reservoir releases in excess of water temperature requirements and the Drought Contingency Plan, the Board can and should modify operations in the summer to reduce the risk to salmon populations. In particular, the Board should modify the operative TUCP orders and temperature plan for Shasta to reduce reservoir releases in the summer months to the levels needed for temperature control (which releases can then be used to meet multiple additional downstream purposes). This would shift some releases and diversions/exports to the fall months, when higher releases are necessary for temperature control (or would otherwise not affect the cold water pool in the reservoir). This shifting of releases to the fall has the additional benefit of allowing the Board to prioritize fall deliveries to maximize habitat for migratory birds when it is most needed, both for water supply for wildlife refuges and for fall rice decomposition.

Without these changes, the current plan for drought operations will again result in unreasonable impacts to fish and wildlife, and the thousands of fishing jobs and communities that depend on healthy salmon runs. The Board can and should revise operations to reduce or avoid such impacts this year. In addition, it is imperative that the Board better protect fish and wildlife should the drought continue in 2016; continued waivers of D-1641 and failure to meet upstream temperatures will likely lead to the extinction of native fisheries and the continued degradation of the health of the Bay-Delta estuary. That is neither lawful nor acceptable.

Sincerely,

Doug Obegi
Natural Resources Defense Council

Jon Rosenfield, Ph.D.
The Bay Institute